

Application No.: 10/564,470Docket No.: 2134-034**REMARKS**

The subject matter of claim 3 has been inserted into claim 1 and claim 3 has been canceled, to expedite prosecution. Some of the claims have been amended for clarity. Claims 10-17 have been added to provide applicant with the protection to which he is deemed entitled. The subject matter of independent claim 10 is disclosed by Figures 1-5 and the description thereof in the portion of the specification entitled DETAILED DESCRIPTION OF THE DRAWINGS. The features of claims 11 and 12 are found in Figures 2 and 3, and the features of claims 13, 14 and 16 are found in Figure 3 which indicates liquid solder 50 is on the bottom surface of circuit board 32.

Applicant traverses the rejection under 35 USC 102 (b) of claims 1, 2 and 4-9 as being anticipated by Vicich, US Patent 6,159,045. Vicich does not specifically disclose a space with capillary qualities between the peg and the wall of the hole in the circuit board. The office action apparently relies on inherency to support the statement that "there is an intermediate space with capillarity for solder 50 (clearly shown in figure 5), such that solder situated on the surface of the circuit board during a soldering procedure penetrates by capillary action into the intermediate space, filling it." In this regard, there is no mention of capillarity or capillary action in connection with a soldering procedure in the reference. The examiner is reminded that a proper rejection based on inherency requires proof or rationale to support inherency and that the inherent property must be necessarily so; MPEP Section 2112 and the decisions cited therein. Because there is no proof or rationale in the office action that solder situated on the surface of the circuit board during a soldering procedure necessarily penetrates by capillary action into the intermediate space, filling it, the office action has not met the requirements for a proper rejection based on inherency.

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In addition, there is very strong evidence from the Vicich disclosure that the reference does not include such an intermediate space since at least part of the solder is already in the hole prior to the soldering process. The reference explicitly indicates the complete inner surface of through-hole 42 in circuit board 40 is lined with solder prior to the soldering process (column 4, lines 25-29). When the solder on the circuit board surface initially becomes liquefied, more solder is sucked into the hole apparently because of the high surface tension of solder, rather than because of capillary action. The initial flow of solder based on a capillary effect resulting from an interaction between the coating of the inner wall of the hole with solder and the surface tension of the solder in combination with small diameters of the space is, therefore, not necessarily in Vicich. Another reason why the Vicich arrangement apparently does not include capillary capacities between the peg and the inner wall of the hole in the circuit board is because in Fig. 5 the space above tail portion 27 fills with solder, even though this space obviously has a diameter that is too large for a capillary effect to occur. Based on the foregoing, the rejection of claim 1 is incorrect.

Because the rejection of claim 1 is wrong, claims 2 and 4-9, which depend on claim 1, is incorrect. The newly added claims are allowable for reasons similar to those discussed in connection with claim 1. In addition, many of these claims include features not disclosed or made obvious by the art of record.

In view of the foregoing amendments and remarks, allowance is in order.

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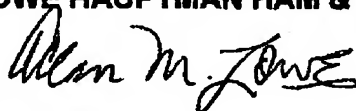
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To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

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